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BEFORE THE
ILLINOIS COMMERCE COMMISSION

Witness
Date 6/28/01 Reporter [signature]

Illinois Commerce Commission)
On its Motion)
vs)
Illinois Bell Telephone Company)
Investigation into tariff providing)
Unbundled local switching with)
Shared transport)

Docket No. 00- 0700

Direct Testimony of Dr. August H. Ankum
On Behalf Of
AT&T Communications of Illinois, Inc. and WorldCom, Inc.

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Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS
ADDRESS.

A. My name is Dr. August H. Ankum. I am a Senior Vice President at QSI Consulting, Inc., a consulting firm specializing in economics and telecommunications issues. My business address is 1261 North Paulina, Suite #7, Chicago, IL 60622.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
WORK EXPERIENCE.

A. I received a Ph.D. in Economics from the University of Texas at Austin in

1 1992, an M.A. in Economics from the University of Texas at Austin in
2 1987, and a B.A. in Economics from Quincy College, Illinois in 1982.

3
4 My professional background covers work experiences in private industry
5 and at state regulatory agencies. As a consultant, I have worked with
6 large companies such as AT&T, AT&T Wireless and MCI WorldCom
7 ("WCOM"), as well as with smaller carriers, including a variety of
8 competitive local exchange carriers ("CLECs") and wireless carriers. I
9 have worked on many of the arbitration proceedings between new
10 entrants and incumbent local exchange carriers ("ILECs"). Specifically, I
11 have been involved in arbitrations between new entrants and NYNEX, Bell
12 Atlantic, US West, BellSouth, Ameritech, SBC, GTE and Puerto Rico
13 Telephone. Prior to practicing as a telecommunications consultant, I
14 worked for MCI Telecommunications Corporation ("MCI") as a senior
15 economist. At MCI, I provided expert witness testimony and conducted
16 economic analyses for internal purposes. Before I joined MCI in early
17 1995, I worked for Teleport Communications Group, Inc. ("TCG") as a
18 Manager in the Regulatory and External Affairs Division. In this capacity, I
19 testified on behalf of TCG in proceedings concerning local exchange
20 competition issues, such as Ameritech's Customers First proceeding in
21 Illinois. From 1986 until early 1994, I was employed as an economist by
22 the Public Utility Commission of Texas ("PUCT") where I worked on a

1 variety of electric power and telecommunications issues. During my last
2 year at the PUCT I held the position of chief economist. Prior to joining
3 the PUCT, I taught undergraduate courses in economics as an Assistant
4 Instructor at the University of Texas from 1984 to 1986.

5

6 A list of proceedings in which I have filed testimony is included as
7 Schedule AHA-1.

8

9

10 **I. SUMMARY AND RECOMMENDATIONS**

11

12 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

13 A. The purpose of my testimony is to address issue 5(a) of the Commission's
14 Order in the current proceeding, Docket No. 00-0700: "Whether the costs and
15 rates comply with prior Commission and FCC Orders."¹ To this purpose, I will
16 first discuss Ameritech's testimony and demonstrate that it fails to comply with
17 the Commission's Order on a number of issues. Second, I will correct certain
18 of Ameritech's studies – Ameritech's Regional Partnership in Provisioning
19 Switching Model ("ARPSM") and the Network Usage Cost Analysis Tool
20 ("NUCAT") -- and propose adjusted rates based on those corrections. The

¹ Order, ICC Docket 00-0700 (herein after referred to as the ULS-ST Order),
Illinois Commerce Commission, November 1, 2000. Page 3.

1 results of my corrections are found in Schedules AHA-2, AHA-3, AHA-4, and
2 AHA-5, attached to this testimony.

3
4 **Q. PLEASE SUMMARIZE YOUR TESTIMONY AND STATE YOUR**
5 **RECOMMENDATIONS.**

6 A. Ameritech has failed to comply with the Commission's Order in the current
7 proceeding, Docket No. 00-0700, and Consolidated Docket Nos. 96-0486
8 and 96-0569² on a number of issues.

9
10 *First*, the company has failed to propose and provide cost support for a
11 new Unbundled Switch Port price, as required by the Commission's Order
12 in the current proceeding. Instead, Ameritech proposes the old, interim
13 rate of \$5.01, adopted by the Commission in the TELRIC Order. The
14 interim rate of \$5.01, however, is inappropriate and should be *rejected* for
15 the following reasons:

- 16 • it has received no cost support from Ameritech – as required by the
17 Commission's TELRIC Order (the \$5.01 was based on intervenor
18 testimony in the previous TELRIC proceeding);
- 19
20 • it was based on old switching vendor contracts and not on
21 Ameritech's current switching vendor contracts;
22

² Second Interim Order, ICC Docket 96-0486 and 96-0569 (Consolidated) (herein after referred to as the TELRIC Order), Illinois Commerce Commission, February 17, 1998.

- it was based on the old Switching Cost Information System ("SCIS") model that is no longer in use – and which overstates Ameritech's switching costs; and
- Ameritech now proposes the \$5.01 rate for *only* the line port. However, as adopted by the Commission, it provides for the use of all switch resources, including the line port, switch usage and the switch trunk port.

Using Ameritech's own ARPSM model, I calculate an appropriate TELRIC based monthly flat-rated port charge that recovers costs for *the line port and all usage* on the switch -- that is, *no* additional per MOU ULS switching charges would apply. The result for the switching components is found in Schedule AHA-5. However, to complete this proposal, I need a number of cost components for which Ameritech has not yet provided the information: MDF/DSX, intercept, telephone number, directory, report processing, other administrative expensive. Once I receive answers to outstanding discovery, I will be able to propose a bottom-line, final rate to the Commission.

Second, Ameritech introduces a significant per minute of use ("MOU") charge for local switching. This proposal directly violates the Commission's TELRIC Order and should be rejected. In the TELRIC Order, the Commission explicitly found that switching costs are not significantly usage sensitive and that Ameritech should offer a flat-rated port that includes usage. Ameritech's proposed MOU charge ignores this

1 directive. The proposed MOU charge is made even more onerous
2 because the company also reintroduces the \$5.01 interim monthly port
3 charge that is already designed to recover all switch functions, including
4 end-office switching and trunk port usage. Even if the \$5.01 port charge
5 were cost based – and it is not – this would result in double recovery of
6 end-office switching and trunk port investments.

7
8 In addition to these obvious violations of the Commission's Orders,
9 Ameritech's new switching model, ARPSM, and Shared Transport Model,
10 NUCAT, require corrections.

11
12 *Switching Studies (ARPSM):*
13

- 14 • Ameritech fails to fairly represent its switch vendor contracts and
15 prices. Switch vendors extend large discounts to Ameritech for
16 newly placed circuit switches, but these discounts are not fully
17 reflected. In fact, Ameritech fails to consider switching facilities that
18 serve *14 million lines* and for which Ameritech received huge
19 discounts. By not considering total demand/output, Ameritech
20 ignores that the "T" in TELRIC stands for "Total Quantity." I
21 recommend that the Commission order Ameritech to do a proper
22 TELRIC study and include a sufficient number of switches – *at their*
23 *discounted prices* -- to serve all lines.
- 24
25 • I recommend that the Commission adopt the weighted switch
26 vendor prices for lines and trunk ports as calculated in Schedule
27 AHA-2. These figures properly reflect TELRIC principles and weigh
28 the cutover and growth discounts/prices received by Ameritech.
- 29
30 • As the Commission has already established in the TELRIC Order,
31 Ameritech does not incur usage (or CCS) based costs or charges –
32 its CCS related investments are fictitious and should be rejected.
- 33
34 • Without any support Ameritech assumes that a system-wide switch

1 upgrade is imminent due to a large increase in peak usage – *and*
2 *that this increase is not anticipated in the switch vendor contracts.*
3 Ameritech claims that system-wide peak CCS usage may increase
4 from an average of ***** to as much as ***** or more CCS. This
5 claim is extraordinary, and unsubstantiated. The Commission
6 should reject this assumption.
7

- 8
- 9 • Ameritech has applied fill factors in its switching model (ARPSM).
10 This is not appropriate because under the Partnership In
11 Provisioning ("PIP") contracts, Ameritech's switch vendors are
12 required to engineer and maintain the switches to run at *****
13 *****. Moreover, switch vendor prices explicitly provide for
14 handling and storage of facilities. That is, it is the switch vendors
15 that incur the costs of maintaining spare facilities, not Ameritech. I
16 recommend that the Commission order Ameritech to remove the
17 inappropriately low fill factors from the ARPSM study. I
18 conservatively recommend a fill factor of *****, which allows
19 sufficient spare to accommodate one year of growth on the
20 switches.
21

22 *ULS- Shared Transport Studies (NUCAT):*
23

- 24 • The ULS-ST study should be adjusted to provide for the fact that
25 the port charge is flat-rated and the fact that there are no per MOU
26 switching charges.
27
- 28 • In the ULS-ST study, Ameritech determines interoffice trunk port
29 investments based on the number of lines served by switches
30 instead of interoffice usage (MOUs). As a result, Ameritech inflates
31 trunk port investments. This issue concerns only the interoffice
32 trunk port investments, which is part of transport, and is distinct
33 from the discussion about recovering switching costs through a flat-
34 rated line port.
35
- 36 • Ameritech also includes a cost item called Daily Usage Feed, which
37 provides for measuring capabilities on the switch. This cost item is
38 entirely unsubstantiated. Given that the switch vendors do not
39 appear to charge Ameritech separately for the investment
40 necessary for measuring, there is likely a double count for this cost.
41

42
43 I recalculate the ULS-ST rates. The results are found in Schedule AHA-4.

1 A summary of the cumulative effect of all recommendations is found at the
2 end of this testimony.

3
4
5 **II. THE COMMISSION SHOULD REJECT AMERITECH'S PROPOSED**
6 **UNBUNDLED PORT CHARGE OF \$5.01 -- AMERITECH FAILS TO PROVIDE**
7 **COST SUPPORT, IT IS BASED ON OLD CONTRACTS AND IT LEADS, AT A**
8 **MINIMUM, TO DOUBLE-RECOVERY OF TRUNK PORT COSTS**
9

10
11
12 **Q. WHAT IS THE COMMISSION'S DIRECTIVE IN THE ULS-ST**
13 **INVESTIGATION ORDER IN DOCKET 00-0700 REGARDING COSTS AND**
14 **RATES?**

15 A. The Commission ordered Ameritech to provide evidence on the following
16 issue: "Whether the costs and rates comply with prior Commission and FCC
17 Orders." (Page 3.) That is, Ameritech is required to file cost support for its
18 proposed rates.

19
20 **Q. HAS AMERITECH FILED COST SUPPORT FOR ITS PROPOSED \$5.01**
21 **RATE FOR UNBUNDLED LINE PORTS?**

22 A. No. It appears that Ameritech is proposing to use the interim rate of \$5.01 for
23 a flat-rated port which was adopted by the Commission in the TELRIC Order.
24 However, Ameritech has failed to provide any cost support for its proposed
25 \$5.01 unbundled switch port charge, as required by the Commission's ULS-
26 ST Order. For this reason alone, the \$5.01 rate should be rejected.

1

2 **Q. WAS THE INTERIM RATE OF \$5.01 BASED ON INTERVENOR**
3 **TESTIMONY IN CONSOLIDATED DOCKET NOS. 96-0486 AND 96-0569**
4 **AND NOT ON AN AMERITECH COST STUDY?**

5 A. Yes. The Commission adopted a \$5.01 interim flat-rated port charge
6 based on the testimony of Mr. Joe Gillan and not based on a cost study
7 supported by Ameritech. As the Commission notes on page 60 of the
8 TELRIC Order: "In the interim, the Commission adopts the interim ULS
9 rate of \$5.01 per line per month as calculated by WorldCom witness Mr.
10 Gillan in WorldCom Ex. 1.3P, Sch. 3P." Therefore, Ameritech cannot
11 possibly argue that it has provided cost support for the proposed \$5.01
12 rate, either in this proceeding or in the TELRIC proceeding in
13 Consolidated Docket Nos. 96-0486 and 96-0569.

14

15 **Q. WAS THE INTERIM RATE OF \$5.01 BASED ON INFORMATION FROM**
16 **OLD SWITCH VENDOR CONTRACTS THAT HAVE SINCE BEEN**
17 **SUPERCEDED BY NEW CONTRACTS?**

18 A. Yes. Ameritech's switching costs studies in the TELRIC proceeding,
19 Consolidated Docket Nos. 96-0486 and 96-0569, were based on now
20 outdated switch vendor contracts. As Ameritech's own testimony in the
21 current proceeding demonstrates, Ameritech now operates under new
22 contracts that contain different prices. (An extensive discussion of

1 Ameritech's current contracts is found below and in the ARPSM
2 documentation provided by Ameritech).³ As such, the interim rate of \$5.01 is
3 not based on current vendor contracts, as required by the FCC TELRIC
4 methodology.

5
6 **Q. WERE AMERITECH'S SWITCHING COSTS STUDIES BASED ON SCIS, A**
7 **BELLCORE MODEL THAT AMERITECH NO LONGER USES?**

8 A. Yes. ARPSM, Ameritech's current switching cost model, was only
9 introduced after the Commission's TELRIC Order was issued. The
10 switching cost studies that Ameritech filed and some of the information
11 used by intervenors in Consolidated Docket Nos. 96-0486 and 96-0569
12 was based on SCIS, the BellCore developed switching cost model.
13 Ameritech has since abandoned the use of the SCIS model.

14
15 **Q. MOST IMPORTANTLY, DID THE INTERIM RATE OF \$5.01 PROVIDE**
16 **FOR USE OF ALL SWITCH RESOURCES, INCLUDING THE LINE**
17 **PORT, SWITCH USAGE AND THE TRUNK PORT?**

18 A. Yes. In the current proceeding, Ameritech is proposing the interim rate of
19 \$5.01 for only the unbundled switch port. However, in the TELRIC
20 proceeding, Consolidated Docket Nos. 96-0486 and 96-0569, the \$5.01

³ See Ameritech's responses to WCOM's First Set of Data Requests, Question 1.

1 adopted by the Commission provides cost recovery for all switch
2 resources, including the line port, switch usage and the trunk port. Thus,
3 not only is the interim rate of \$5.01 inappropriate for the aforementioned
4 reasons, Ameritech also completely misapplies it and, if the Commission
5 adopts it on a permanent basis – which it should not – then it will result in
6 double recovery of usage and trunk costs.

7
8 **Q. WHAT DO YOU RECOMMEND?**

9 A. I recommend that the Commission reject Ameritech's proposal to adopt
10 the interim rate of \$5.01 on a permanent basis. Instead, the Commission
11 should adopt the flat-rated charge calculated in Schedule AHA-5, attached
12 to this testimony. My adjustments of Ameritech's cost studies are
13 discussed in more detail below.

14
15 **III. THE COMMISSION SHOULD REJECT AMERITECH'S ATTEMPT TO RE-**
16 **LITIGATE THE ISSUE OF WHETHER OR NOT SWITCHING COSTS ARE USAGE**
17 **SENSITIVE AND REJECT AMERITECH'S MOU SWITCH CHARGES**

18
19
20 **Q. DID THE COMMISSION FIND IN ITS TELRIC ORDER THAT AMERITECH**
21 **INCURS ITS SWITCHING COSTS ON A PER LINE BASIS AND NOT ON A**
22 **USAGE SENSITIVE BASIS?**

23 A. Yes. The issue of whether or not switching costs are usage sensitive was
24 extensively litigated in consolidated Docket Nos. 96-0486 and 96-0569.
25 Having reviewed the evidence, the Commission found that Ameritech – as

1 claimed by intervenors – incurs switching costs on *per line basis and not on a*
2 *usage sensitive basis*. Specifically, the Commission found:

3
4 Based on a review of Ameritech's switching contracts, it is
5 clear that the primary basis used by switch vendors to
6 charge Ameritech for its switches is a price per line.
7 Because Ameritech incurs switching costs on a
8 predominantly per-line basis, we find it consistent with the
9 fundamental principles of cost causation that the ULS
10 subscriber should also pay the ULS element primarily on a
11 per line basis, *without a usage charge*. However, as Staff
12 noted, this does not totally preclude a minimal per-minute
13 charge each time a particular line is accessed in order for
14 Ameritech Illinois to recover actual costs incurred whenever
15 the switch is activated. (TELRIC Order, Page 59.)
16 (Emphasis added.)
17

18
19 The Commission then went on to mandate the following:
20
21

22 Therefore, we require Ameritech to file a new ULS cost study
23 which establishes prices *primarily based on the flat-rate*
24 *terms of its vendor contracts*. The cost study should
25 delineate the usage costs incurred whenever a portion of the
26 switch is activated, and Ameritech Illinois should be allowed
27 to recover this incremental cost from the CLEC, either as a
28 portion of the per-line charge, or through a small charge per
29 minute of use. The usage charge should not recover any
30 costs associated with the initial cost of the switch, but only
31 those usage-sensitive costs necessary to operate and
32 maintain the switch. (TELRIC Order, Page 59.) (Emphasis
33 added.)
34

35
36 Thus, the only permissible usage charges should relate to operating and
37 maintaining the switch, and, in any event, they should be *minimal*. It is clear
38 that Ameritech has completely ignored the Commission's directives and is, in
39 fact, seeking to re-litigate the issue. This is inappropriate.

1

2 **Q. IN DIRECT VIOLATION OF THE COMMISSION'S ORDER, IS AMERITECH**
3 **PROPOSING SIGNIFICANT AND NOT MINIMAL PER MOU CHARGES?**

4 A. Yes. Ameritech is proposing a charge of \$0.0011 for ULS switch usage per
5 MOU. This charge is significant and not minimal as ordered by the
6 Commission. *Indeed, this per MOU charge recovers over *****%⁴ of all of*
7 *the investments in Lucent switches.⁴*

8

9 **Q. HAS AMERITECH EVEN IDENTIFIED THE COSTS FOR OPERATING**
10 **AND MAINTAINING THE SWITCH?**

11 A. No. All of the per MOU charges are based on switch investments. Nowhere
12 in ARPSM is there any recognition of any costs to operate and maintain the
13 switch as ordered by the Commission.

14

15 **Q. WHAT DO YOU RECOMMEND?**

16 A. I recommend that the Commission reject Ameritech's proposed per MOU ULS
17 switch usage charges.

18

19 **Q. HAVE YOU RE-EXAMINED AMERITECH'S SWITCH VENDOR**
20 **CONTRACTS?**

⁴ See ARPSM, Tab: Output Summary. This number is calculated as the ratio of Total CCS (per line) over the sum of Total CCS (per line) and Blended Line (per line).

1 A. Yes. I have examined Ameritech's switch vendor contracts with Lucent,
2 Nortel and Siemens.

3
4 **Q. DO AMERITECH SWITCH VENDOR CONTRACTS INCLUDE USAGE**
5 **BASED CHARGES?**

6 A. No. As the Commission noted in the TELRIC Order, Ameritech's switch
7 vendor contracts apply charges on a per line basis and a per trunk port basis.
8 There are no usage or CCS based charges in those switch vendor contracts.

9
10 **Q. ARE THERE OTHERWISE PROVISIONS IN THOSE VENDOR**
11 **CONTRACTS THAT WOULD CAUSE AMERITECH TO INCUR USAGE**
12 **SENSITIVE COSTS?**

13 A. No.

14
15 **Q. CONCEPTUALLY, ARE SWITCHING COSTS USAGE SENSITIVE?**

16 A. No. As the Commission already found in the TELRIC Order, switching
17 capacity is constrained by the number of lines and the number trunk ports
18 served by a switch. Given that the switch is installed with sufficient processor
19 capacity to serve all lines without blockage, switch usage is simply not a
20 constraint on switch capacity. Further, given that usage is not a constraint,
21 conceptually (in mathematical terms), there is no associated cost with switch

1 usage. That is, usage does not cause any additional costs to come into
2 existence.

3
4 **Q. HAS AMERITECH PRESENTED CREDIBLE EVIDENCE TO SUPPORT ITS**
5 **PROPOSED USAGE BASED SWITCHING CHARGES?**

6 A. No. Ameritech performs extensive calculations in ARPSM to convert fixed per
7 line costs in contained in the switch vendor contracts into usage sensitive,
8 centum call second ("CCS") based costs.⁵ *This is all very peculiar since, as*
9 *noted by the Commission, there are no usage based, CCS based, or MOU*
10 *based costs in the switch vendor contracts.*

11
12 **Q. HAS AMERITECH IN FACT EVER PAID A SWITCH VENDOR UNDER ITS**
13 **CURRENT CONTRACTS FOR SWITCH USAGE ON A CCS OR MOU**
14 **BASIS?**

15 A. To my knowledge, Ameritech has not. Typically, the switch is engineered with
16 so much spare processor capacity that no additional facilities are ever
17 needed. Further, Ameritech has in the past objected to this line of inquiry and
18 to the extent that the company has produced any numbers at all there has
19 been no demonstration that they were anything but incidental upgrades of old
20 switches. Occasionally, Ameritech may have vendors upgrade older

1 switches, but this in itself does not justify the proposed per MOU ULS switch
2 charges.

3
4 **Q. WHAT IS THE BASIS FOR AMERITECH'S CLAIMS THAT SWITCH**
5 **CHARGES SHOULD BE USAGE SENSITIVE?**

6 A. There is really no evidence presented by Ameritech to support its claim.
7 From discovery responses we know that Ameritech has based its CCS
8 investments (and usage charges) on letters from switch vendors. The letters
9 on which Ameritech relies are not part of the switch vendor contracts and
10 were elicited by members of Ameritech's cost team for purposes of supporting
11 assumptions in Ameritech's cost studies, not to purchase switching facilities.
12 Further, the Ameritech cost team asked the vendors to respond to highly
13 unrealistic scenarios in which usage increased greatly on the network, to
14 levels beyond those anticipated by the vendors. Ameritech requested its
15 switch vendors to manufacture this information only after it was revealed in
16 the TELRIC proceeding that Ameritech purchases its switches primarily on a
17 per-line basis without a usage charge and the Commission required
18 Ameritech to reflect that in its ULS rate structure.

19

⁵ CCS stands for 100 call seconds. One could use "one minute" (60 seconds) as a measure of time, but since it is easier to work with a decimal system, the unit of time is selected to be CCS (100 seconds). The issue here is the number of CCS that an end-user line uses the switch *at the peak hour*.

1 I recommend that the Commission ignore these letters. The issue has
2 already been litigated. Further, the letters are nothing more than responses to
3 an unrealistic scenario conjured up by Ameritech, which has no bearing on
4 the issue at hand.

5
6 **Q. WHY DO YOU SAY THAT THE HYPOTHETICAL SCENARIOS HAVE NO**
7 **BEARING ON THIS PROCEEDING?**

8 A. I say this for two reasons. First, as the FCC noted in paragraph 691 of its
9 Local Competition Order, under the TELRIC methodology, "costs must be
10 attributed on a cost-causative basis." If costs are "implied" rather than
11 explicitly found in the switch vendor contracts, then the chain of cost causation
12 that should guide cost analysts in identifying costs is absent. That is, if costs
13 are not incurred on a CCS basis – and even Ameritech witness Mr. Palmer
14 admits that they are not – then the cost causation principle dictates that no
15 CCS costs should be identified (and by extension, no CCS based prices
16 either.)

17
18 Second, as will be discussed in more detail below, Ameritech queried its
19 switch vendors about situations where peak usage exceeds the level for
20 which the switch is designed. In other words, Ameritech's cost analyst posed
21 the question to vendors how much it would cost them to go back into the
22 switch after it has been installed and to upgrade the switch to accommodate a

1 much higher level of usage. But that is not the question before this
2 Commission. The question before the Commission is: what are the costs for
3 network elements given current levels of demand and usage – not the costs of
4 accommodating some higher, more intense level of usage. (And, again, there
5 is no support for the claim that network usage will increase significantly.)
6

7 **Q. ARE YOU SAYING THAT SWITCHING COSTS SHOULD BE IDENTIFIED**
8 **BASED ON CURRENT DEMAND CHARACTERISTICS?**

9 A. Yes. As previously discussed, the "T" in TELRIC stand for total *current level*
10 of demand (or a reasonable projection of demand). *****

11 *****

12 *****

13 *****

14 ***** **

15
16 By contrast, Ameritech has determined costs for switches that need to carry
17 much more intense peak load usage. *In fact, Ameritech asked the switch*
18 *vendors to assume that peak usage would double.* Of course, if one were to
19 assume radically increased switch usage at the peak then presumably
20 additional costs would come into existence, particularly if one assumes that
21 the existing switches were under-engineered and now need upgrading. But
22 again, that is the wrong situation to study in this proceeding.

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**Q. HAS AMERITECH MADE ANY DEMONSTRATION THAT A SIGNIFICANT
AND UNANTICIPATED INCREASE IN SWITCH USAGE IS IMMINENT?**

A. No. *Ameritech asked its vendors to assume that peak usage would double.*
But there is absolutely no evidence presented to support this extraordinary
assumption.

It is no wonder, therefore, that vendors responded that some switches may
need upgrading. Part of the vendor contracts is that switches are engineered
to specific performance standards, such as line-to-trunk blockage, trunk-to-
trunk blockage, etc. *****

***** ** If peak usage doubles – as
assumed but unsupported by Ameritech – then, obviously, the vendors may
have to expand parts of the switch.

Ameritech has made no demonstration that there will be a previously
unanticipated change in traffic and usage patterns that warrant a general and
system-wide upgrade of its switches. Yet that is what Ameritech would like
this Commission to believe by including CCS costs over and above the level
that their switches are currently engineered for.

1

2 **Q. WHY DO YOU SAY THAT AMERITECH IN EFFECT CLAIMS THAT A**
3 **GENERAL SYSTEM-WIDE UPGRADE IS IN ORDER?**

4 A. Ameritech's switching model is a system-wide model (though Ameritech fails
5 to include all lines in its system.) Thus, the per line CCS investments that
6 Ameritech includes in ARPSM are for the lines served by all of Ameritech's
7 switches. That is, Ameritech has assumed – by the methodology used in
8 ARPSM – that a system-wide upgrade is imminent. The assumption, as
9 noted, is entirely unsubstantiated and should be rejected along with
10 Ameritech's proposed CCS/usage based charges.

11

12 **Q. PLEASE DISCUSS THE CORRESPONDENCE BETWEEN AMERITECH**
13 **AND ITS SWITCH VENDORS IN MORE DETAIL.**

14 A. In response to Ameritech's inquiry, each of the switch vendors sent Ameritech
15 a letter. While I have already discussed why the letters are not relevant since
16 they answer the wrong question, a careful reading of the letters further reveals
17 that there truly are no CCS based costs and that Ameritech's CCS related
18 costs are unsupported.

19

20 **Q. PLEASE DISCUSS AMERITECH'S CORRESPONDENCE WITH NORTEL?**

21 A. The letter from Nortel to Ameritech is dated 11/16/98. (It is found in Exhibit 5
22 (AHA-5).) It opens with the phrases:

***** **

A number of important observations are in order:

1. Ameritech had to convene a special meeting approximately nine months after the Commission ordered Ameritech to implement a flat rated ULS rate structure to talk about any CCS based costs that might exist. Obviously, if CCS based costs were significant, they would have been prominently featured in the contracts, and Ameritech would not have had to arrange for a special meeting *years into their contract with Nortel* to find out whether or not such CCS costs could be identified.
2. The requested information concerns "increasing CCS." No demonstration has been made that usage would increase significantly enough to warrant any expansion of facilities. The question was not – as it should have been – are there CCS based costs that Ameritech incurs under its existing contracts. Thus, even the answer that they received was not the answer that is relevant. (See additional discussion below about the costs of increasing CCS.)
3. The only "applicable charge" Nortel could identify was the LCM Port. *This means that even if after scratching their heads in an effort to accommodate one of their bigger clients, Ameritech, the Nortel folks could only identify one "applicable charge."* (Moreover, this charge would only apply in case there was an *increase* in CCS per line, not for usage on the switch – which is the issue before the Commission.)

In short, the letter from Nortel to Ameritech can hardly be used as evidence that Ameritech purchases its switches on a usage sensitive basis. At best, it indicates that there might be some additional costs if per line usage were to increase beyond what the switch is engineered for, based on Nortel's experience with switch usage. Of course, if Nortel had reason to believe that

1 line usage would be significantly higher in the future, it would presumably re-
2 engineer its switches to accommodate for that increased switch usage, and,
3 again, usage would cease to be an issue.
4

5 **Q. PLEASE DISCUSS WHETHER THE "ONE APPLICABLE CHARGE" FOR**
6 **THE LCM PORT IS EVEN RELEVANT?**

7 A. Again, Nortel could identify only one applicable charge: LCM Ports. But even
8 this one charge is not really applicable. The LCM ports are found on the line
9 control module (LCM) and are for the DS30A links that establish the
10 connection between the LCM and the LGC (line group controller). According
11 to Nortel, if there is more usage per line, then there need to be more links
12 between the LCM and the LGC, and thus there need to be more ports on the
13 LCM.
14

15 But these charges are hardly relevant: no LCM and LGCs are needed on a
16 forward-looking basis. On a forward-looking basis, Ameritech will be
17 deploying Next Generation Digital Loop Carrier ("NGDLC") GR303 interfaces
18 for its digital loop carrier systems. For example, under Project Pronto, SBC is
19 scheduled to spend \$5 billion to deploy additional fiber based DLC systems,
20 with GR303 interfaces. But Project Pronto aside, GR303 is the forward-
21 looking interface to be assumed in forward-looking cost studies.
22

1 Thus, in any event, the costs of increasing per line CSS should be evaluated
2 in the context of NGDLC GR303 interfaces. Given that no LCM is used for
3 digital lines, the increased costs for LCM ports is simply not relevant. That is,
4 using GR303, digital lines go straight from the fiber central office terminal
5 ("FCOT") to the subscriber carrier module ("SCM") and from there into the
6 ENET (switch matrix) of the DMS switch.

7
8 In short, even after convening meetings with Nortel representatives,
9 Ameritech still could not find usage based vendor charges.

10
11 **Q. DOES NORTEL IN FACT INDICATE THAT THERE ARE NO USAGE
12 BASED COSTS ON A FORWARD-LOOKING BASIS?**

13 **A.** Yes. Nortel ends its letter with noting:

14 *****
15 *****
16 *****
17 *****
18 *****." (Letter page 2.) (Emphasis added.)**
19

20 Thus, after all of Ameritech's requests, Nortel itself states that, on a forward
21 looking basis, ***** **

22
23 **Q. ARE THE LETTERS FROM SIEMENS AND LUCENT TECHNOLOGIES
24 EQUALLY UNSUPPORTIVE OF AMERITECH'S CLAIM THAT THERE
25 ARE USAGE BASED SWITCH VENDOR CHARGES?**

1

2 A. Yes. Lucent Technologies states: ****

3 ****

4 **** " **

5

6 To the extent Lucent Technologies indicates a CCS price, it is only for analog

7 lines. There are no CCS costs for increased usage for digital lines. Further,

8 even for analog lines, the "CCS prices" are for CCS increments up to ****

9 CCS level."** Given that an average line in Ameritech's network operates at a

10 **** level, it is hard to imagine what massive and

11 pervasive change in society would bring about a doubling of telephone use on

12 the network. (If internet usage were to increase average CCS per line so

13 severely, then internet traffic will surely be routed over ATM switches and not

14 stay on the standard circuit switches in the public switched network which are

15 the subject of Ameritech's ULS study.)

16

17 Further, as with Nortel, Ameritech had to convene a special meeting between

18 Lucent and its cost group to find out whether they could identify any usage

19 charges. Clearly, given that these contracts were not new, why is it that

20 Ameritech has to convene special meetings to search for usage based

21 charges? The answer is simple: *there are no such charges in the vendor*

22 *contracts.*

1

2 In short, Lucent cannot identify any significant usage (CCS) costs either.

3

4 **Q. HAS AMERITECH PRODUCED ANY INVOICES FROM VENDORS FOR**
5 **USAGE RELATED CHARGES OR ANY OTHER DOCUMENTS SHOWING**
6 **PAYMENTS FOR SUCH CHARGES?**

7 **A. No.**

8

9 **Q. DOES THE SIEMENS LETTER PROVIDE ANY BASIS FOR AMERITECH'S**
10 **CLAIM THAT SWITCH COSTS ARE USAGE SENSITIVE?**

11 **A. No. *******

12 *********

13 *********

14 ********* Again, Siemens, like Nortel and Lucent, cannot find any CCS costs.
15 Also, the cost increases associated with CCS increases pertain, in part, to
16 outdated technologies. Since Ameritech will be deploying IDLC on a forward-
17 looking basis, these costs are not relevant in this proceeding.

18

19 **Q. HAS AMERITECH PRESENTED ANY EVIDENCE THAT SHOULD CAUSE**
20 **THE COMMISSION TO ALTER ITS FINDING THAT SWITCHING COSTS**
21 **ARE NOT INCURRED ON A PER MOU BASIS?**

1 A. No. I recommend, again, that the Commission should reject Ameritech's per
2 MOU ULS switch usage charges.

3
4
5 **IV. DISCUSSION OF ARPSM**
6

7
8 **Q. HAS AMERITECH DEVELOPED A NEW SWITCHING INVESTMENT**
9 **MODEL?**

10 A. Yes. In past proceedings, Ameritech used a BellCore developed switching
11 model, SCIS, to identify switching investments. The SCIS model has now
12 been replaced by a new model, which was developed by Ameritech itself.
13 This new model, ARPSM (Ameritech Regional PIP Switching Model), draws
14 upon Ameritech's PIP (Partners in Provisioning) switch vendor contracts.

15
16 *ARPSM, however, does not develop switching costs. Rather, ARPSM is*
17 *constructed to answer the question: what unit prices does Ameritech pay – on*
18 *average – to switch vendors for installing switches? It is important to note that*
19 *it concerns unit prices here – expressed on a per port basis -- and not total*
20 *switch investments. To be sure, ARPSM does not calculate total switch*
21 *investments nor does it calculate costs. It only calculates unit prices.*

22
23 As will be discussed below, switching costs are calculated in yet another new
24 model: NUCAT. NUCAT may be seen as Ameritech's attempt to replace yet
25 another BellCore developed model, NCAT.

1

2 **Q. WHY IS IT NECESSARY TO BUILD A MODEL, SUCH AS ARPSM, TO**
3 **SIMPLY CALCULATE UNIT PRICES?**

4 A. While I have serious reservations about ARPSM, the question that Ameritech
5 is attempting – but, unfortunately, failing – to answer is both valid and
6 important. Ameritech's switch vendor contracts with its three switch vendors
7 (Lucent, Nortel, and Siemens) provide for different level of prices. Indeed,
8 there are huge price variations depending on whether a new switch is placed
9 or an existing switch is expanded to accommodate more lines. Given this
10 bifurcated price structure and the fact that Ameritech purchases facilities from
11 three different vendors, the question of "what is the average unit price?," is
12 important and indeed warrants an Excel spreadsheet calculation.

13

14 **Q. IS ARPSM CONCEPTUALLY SIMPLE (THOUGH COMPUTATIONALLY**
15 **COMPLEX)?**

16 A. Yes. To answer the question of what the unit price of switching is (for
17 example, to accommodate a customer line) a conceptually simple weighing of
18 vendor types and prices by line types needs to be performed. The weighing
19 problem can be represented by the example below.

20